SONY

Trinitron® Color Graphic Display

Operating Instructions _____ **US**

Mode d'emploi _____ **FR**

Manual de instrucciones _____ **ES**

HMD-V200

Owner's Record

The model and serial numbers are located at the rear of the unit. Record these numbers in the spaces provided below. Refer to them whenever you call upon your dealer regarding this product.

Model No. _____   Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.
Dangerously high voltages are present inside the unit. Do not open the cabinet. Refer servicing to qualified personnel only.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

IMPORTADOR (Para Mexico unicamente/For Mexico only)

Sony Electronicos de Mexico, S.A. de C.V.
Henry Ford No.29
Fraccionamiento San Nicolas, Tlalnepantla
Estado de Mexico, CP54030
Tel.: 321-1000
R.F.C. SEM-941001-BJA

IMPORTANTE

Para prevenir cualquier mal funcionamiento y evitar daños, por favor, lea detalladamente este manual de instrucciones antes de conectar y operar este equipo.

INFORMATION

This product complies with Swedish National Council for Metrology (MPR) standards issued in December 1990 (MPR II) for very low frequency (VLF) and extremely low frequency (ELF).

INFORMATION

Ce produit est conforme aux normes du Swedish National Council for Metrology de décembre 1990 (MPR II) en ce qui concerne les fréquences très basses (VLF) et extrêmement basses (ELF).

Hinweis

Dieses Gerät erfüllt bezüglich tieffrequenter (very low frequency) und tiefstfrequenter (extremely low frequency) Strahlung die Vorschriften des „Swedish National Council for Metrology (MPR)" vom Dezember 1990 (MPR II).

INFORMACIÓN

Este producto cumple las normas del Consejo Nacional Sueco para Metrologia (MPR) emitidas en diciembre de 1990 (MPR II) para frecuencias muy bajas (VLF) y frecuencias extremadamente bajas (ELF).

Dieses Garät entspricht den folgenden europäischen EMV-Vorschriften für Betrieb in Wohngebieten, gewerblicher Gebieten und Leichtindustriegebieten.

EN55022/1994 Klasse B
EN50082-1/1997
EN60555-2/1987

Hinweise

- Aus ergonomischen Grunden wird empfohlen, die Grundfarbe Blau nicht auf dunklem Untergrund zu verwenden (schlechte Erkennbarkeit, Augenbelastung bei zu geringem Zeichenkontrast)
- Aus ergonomischen Gründen (flimmern) sollten nur Darstellungen bei Vertikalfrequenzen ab 70 Hz (ohne Zeilensprung) verwendet werden.
- Die Konvergenz des Bildes kann sich auf Grund des Magnetfeldes am Ort der Aufstellung aus der korrekten Grundeinstellung verändern. Zur Korrektur empfiehlt es sich deshalb, die Regler an der Frontseite für Konvergenz so einzustellen, daß die getrennt sichtbaren Farblinien für Rot, Grün und Blau bei z.B. der Darstellung eines Buchstabens zur Deckung (Konvergenz) gelangen.
  Siehe hierzu auch die Erklärungen zu Konvergenz.

NOTICE

This notice is applicable for USA/Canada only.
If shipped to USA/Canada, install only a UL LISTED/CSA LABELLED power supply cord meeting the following specifications:

SPECIFICATIONS

Plug Type	Nema-Plug 5-15p
Cord	Type SVT or SJT, minimum 3 × 18 AWG
Length	Maximum 15 feet
Rating	Minimum 7 A, 125 V

NOTICE

Cette notice s'applique aux Etats-Unis et au Canada uniquement.
Si cet appareil est export* aux Etats-Unis ou au Canada, utiliser le cordon d'alimentation portant la mention UL LISTED/CSA LABELLED et remplissant les conditions suivantes:

SPECIFICATIONS

Type de fiche	Fiche Nema 5-15 broches
Cordon	Type SVT ou SJT, minimum 3 × 18 AWG
Longueur	Maximum 15 pieds
Tension	Minimum 7 A, 125 V

As an ENERGY STAR Partner, Sony Corporation has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

This monitor complies with the TCO 1992 guidelines for power saving when used with a computer equipped with VESA Display Power management Signaling (DPMS).

Declaration of Conformity

Trade Name: Sony
Model No.: HMD-V200
Responsible Party: Sony Electronics Inc.
Address: 1 Sony Drive, Park Ridge, NJ. 07656 USA
Telephone No.: 201-930-6970

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
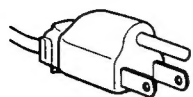
Table of Contents

US

Precautions

Warning on power connection

- Use the supplied power cord. If you use a different power cord, be sure that it is compatible with your local power supply.
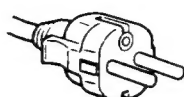 **For the customers in the U.S.A.**
  If you do not use the appropriate cord, this monitor will not conform to mandatory FCC standards.

Example of plug types

for 100 to 120 V AC   for 200 to 240 V AC

- Before disconnecting the power cord, wait at least 30 seconds after turning off the power to allow the static electricity on the screen's surface to discharge.
- After the power is turned on, the screen is demagnetized (degaussed) for about 3 seconds. This generates a strong magnetic field around the screen which may affect data stored on magnetic tapes and disks placed near the monitor. Be sure to keep magnetic recording equipment, tapes, and disks away from the monitor.

The equipment should be installed near an easily accessible outlet.

Installation

Do not install the monitor in the following places:
- on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies, etc.) that may block the ventilation holes
- near heat sources such as radiators or air ducts, or in a place subject to direct sunlight
- in a place subject to severe temperature changes
- in a place subject to mechanical vibration or shock
- on an unstable surface
- near equipment which generates magnetism, such as a transformer or high voltage power lines
- near or on an electrically charged metal surface

Maintenance

- Clean the screen with a soft cloth. If you use a glass cleaning liquid, do not use any type of cleaner containing an anti-static solution or similar additive as this may scratch the screen's coating.
- Do not rub, touch, or tap the surface of the screen with sharp or abrasive items such as a ballpoint pen or screwdriver. This type of contact may result in a scratched picture tube.
- Clean the cabinet, panel and controls with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent, such as alcohol or benzene.

Transportation

When you transport this monitor for repair or shipment, use the original carton and packing materials.

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Positioning your monitor

This monitor is ergonomically designed to reduce eye and muscle fatigue by allowing you to view the screen in a relaxed position. To adjust the monitor correctly, place it in front of you and tilt the screen backwards (max. 25°) until your line of sight is at a right angle to the screen.
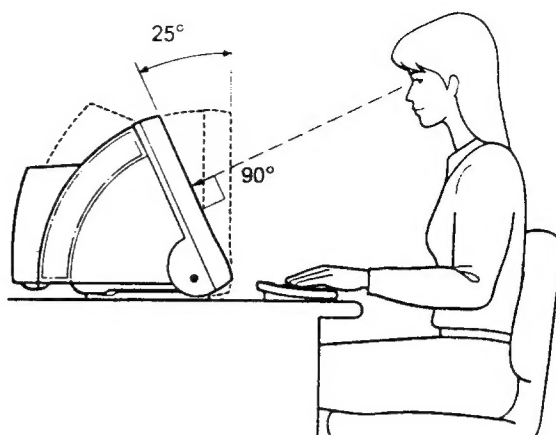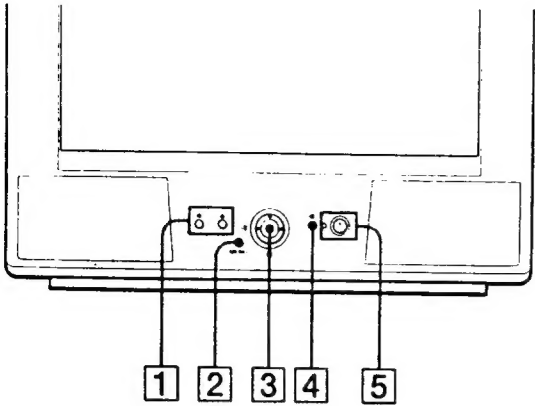

When adjusting the monitor, hold it at the top with both hands as shown below.
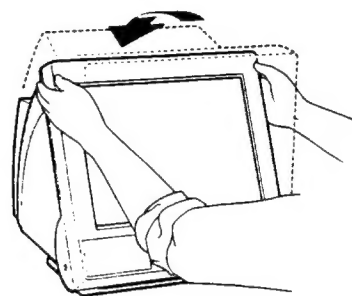
Identifying parts and controls

See the pages in parentheses for further details..

## Front

1 Volume buttons
These buttons adjust speaker volume.

2 MENU button (page9)
This button is used to display the menu.

3 Control button (page9)
The control button is used to make adjustments to the
monitor, including brightness and contrast adjustments.

4 ⊠ (mute) button
This button mutes sound. To restore sound, press the ⊠
(mute) button again or press the Volume Up button.

5 ⏻ (power) switch and indicator (page s7, 13,16)
This button turns the monitor on and off. The power indicator
lights up in green when the monitor is turned on, and either
flashes in green and orange, or lights up in orange when the
monitor is in power saving mode.

6 Video signal cable (HD15) (page6)
The connector of the cable inputs RGB video signals (0.700
Vp-p, positive) and sync signals.
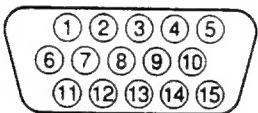
Pin No.	Signal
1	Red
2	Green
3	Blue
4	ID (Ground)
5	DDC Ground*
6	Red Ground
7	Green Ground
8	Blue Ground

Rear
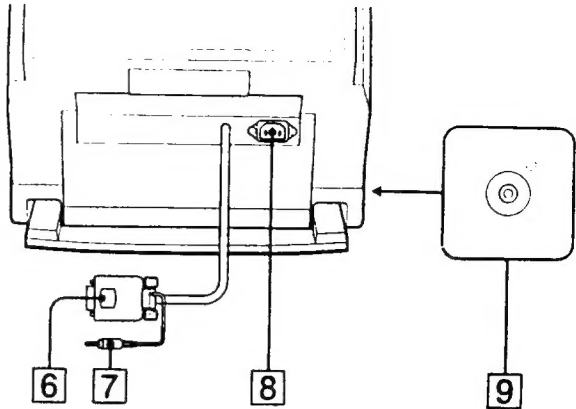
Pin No.	Signal
9	–
10	Ground
11	ID (Ground)
12	Bi-Directional Data (SDA)*
13	H. Sync
14	V. Sync
15	Data Clock (SCL)*

* DDC (Display Data Channel) is a standard of VESA.

7 Audio plug (page6)
This stereo audio plug inputs audio signals.

8 AC IN connector (page7)
This connector provides AC power to the monitor.

9 Headphones jack
Standard mini-plug headphones can be connected. The
speakers are turned off when headphones are connected.

US

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Setup

Before using your monitor, check that the following accessories are included in your carton:

- Power cord (1)
- Windows Monitor Information Disk (1)
- Warranty card (1)
- Notes on cleaning the screen's surface (1)
- This instruction manual (1)

Step 1: Connect your monitor to your computer

Turn off the monitor and computer before connecting.

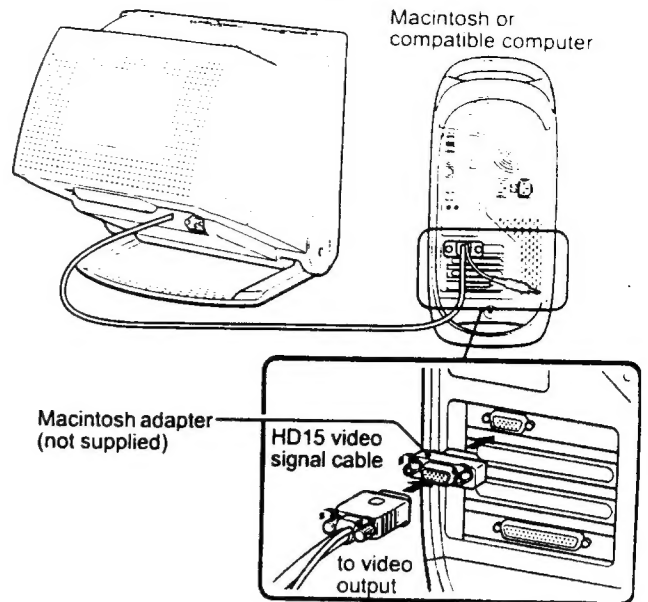### ■ Connecting to an IBM PC/AT or compatible computer

IBM PC/AT or compatible computer
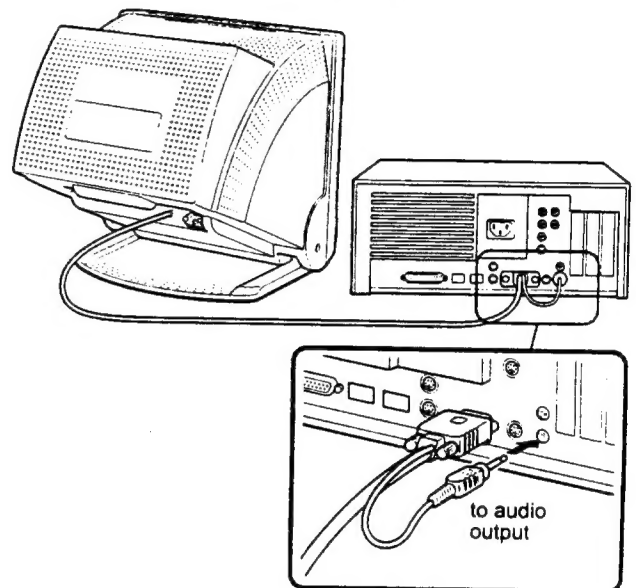
to video output
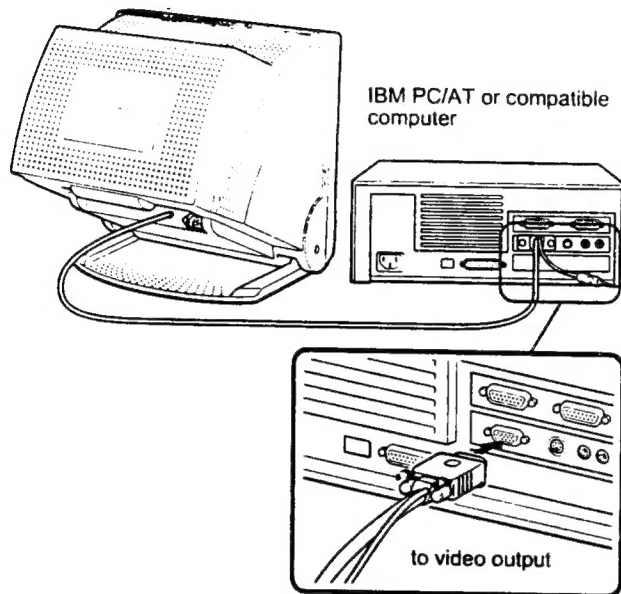
Note
Do not touch the pins of the video cable connector as this might bend the pins.

■ Connecting to a Macintosh

Use a Macintosh adapter (not supplied)

Macintosh or compatible computer

Macintosh adapter (not supplied)

HD15 video signal cable

to video output

■ Connecting the audio plug

to audio output

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Step 2: Connect the power cord

With the monitor and computer switched off, first connect the power cord to the monitor, then connect it to a power outlet.

to AC IN

power cord (supplied)   to a power outlet
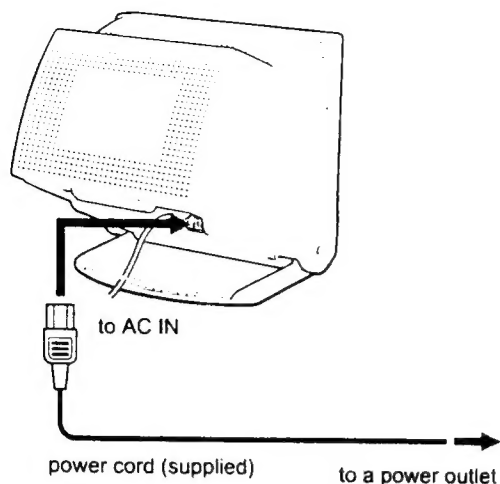
Step 3: Turn on the monitor and computer

First turn on the monitor, then turn on the computer.

The installation of your monitor is complete.
If necessary, use the monitor's controls to adjust the picture.

If no picture appears on your screen

- Check that the monitor is correctly connected to the computer.
- If NO INPUT SIGNAL appears on the screen, check the connections, and confirm that your computer's graphics board is completely seated in the correct bus slot.
- If you are replacing an old monitor with this model and OUT OF SCAN RANGE appears on the screen, reconnect the old monitor. Then adjust the computer's graphics board so that the horizontal frequency is between 30 – 70 kHz and the vertical frequency is between 48 – 120 Hz.

For more information about the on-screen messages, see "Trouble symptoms and remedies" on page 14.

US

For customers using Windows 95/98

To maximize the potential of your monitor, install the new model information file from the supplied Windows Monitor Information Disk onto your PC.
This monitor complies with the "VESA DDC" Plug & Play standard. If your PC/graphics board complies with DDC, select "Plug & Play Monitor (VESA DDC)" or this monitor's model name as the monitor type in the "Control Panel" of Windows 95/98. If your PC/graphics board has difficulty communicating with this monitor, load the Windows Monitor Information Disk and select this monitor's model name as the monitor type.

For customers using Windows NT4.0

Monitor setup in Windows NT4.0 is different from Windows 95/98 and does not involve the selection of monitor type. Refer to the Windows NT4.0 instruction manual for further details on adjusting the resolution, refresh rate, and number of colors.

Adjusting the monitor's resolution and color number

Adjust the monitor's resolution and color number by referring to your computer's instruction manual. The color number may vary according to your computer or video board. The color palette setting and the actual number of colors are as follows:
- High Color (16 bit) → 65,536 colors
- True Color (24 bit) → about 16.77 million colors
In true color mode (24 bit), speed may be slower.

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Customizing Your Monitor

You can make numerous adjustments to your monitor using the on-screen menu. To change the menu language, see OPTION on page 12.
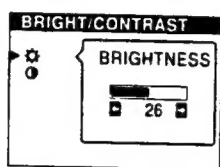
Navigating the menu

Press the MENU button to display the main MENU on your screen. See page 9 for more information on using the buttons.
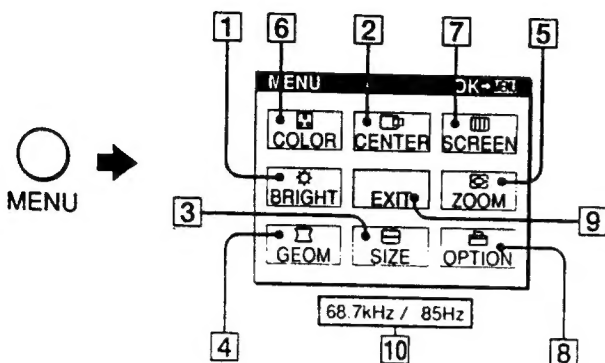
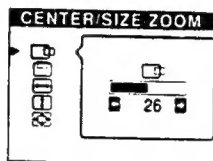Use the control button to select one of the following menus.

[1] BRIGHT (pag e9)
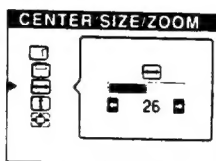Select the BRIGHTmenu to adjust the picture's brightness and contrast.

[2] CENTER (page 9)
Select the CENTER menu to adjust the picture's centering.

[3] SIZE (page 9)
Select the SIZE menu to adjust the picture's horizontal and vertical size.
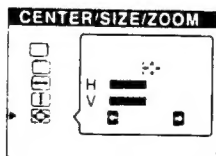

[4] GEOM (page 10)
Select the GEOM menu to adjust the picture's rotation and shape.
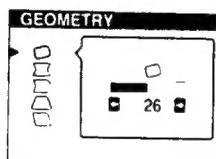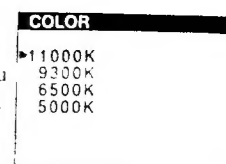

[5] ZOOM (page 10)
Select the ZOOM menu to enlarge or reduce the picture.

[6] COLOR (page 10)
Select the COLOR menu to adjust the picture's color temperature. You can use this to match the monitor's colors to a printed picture's colors.


[7] SCREEN (pa ge11)
Select the SCREEN menu to adjust the picture's quality. You can adjust the vertical and horizontal convergence. landing, and moire cancellation effect.
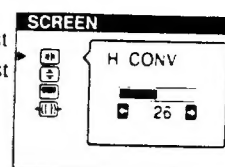
[8] OPTION (page 11)
Select OPTION to adjust the monitor's options. The options include:
- increasing the bass
- degaussing the screen
- changing the on-screen menu position
- locking the controls
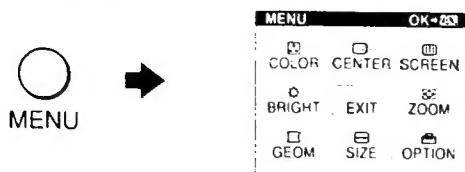- changing the menu language
- resetting the adjustments
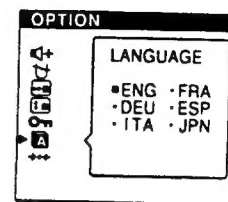
[9] EXIT
Select EXIT to close the menu.

[10] The horizontal and vertical frequencies of the current input signal

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■ Using the buttons

1 Press the MENU button.

The main MENU appears on the screen.

O **MENU** ➡

MENU	OK◄▣
COLOR	CENTER	SCREEN
BRIGHT	EXIT	ZOOM
GEOM	SIZE	OPTION

2 Select the menu you want to adjust.

Move the control button up, down, left, or right to highlight the desired menu. Press the MENU button to select the menu item.

3 Adjust the menu.

Press the control button up or down to select the desired adjustment item, then press the control button left or right to make the adjustment.

4 Close the menu.

Press the MENU button once to return to the main menu, and twice to return to normal viewing. If no buttons are pressed, the menu closes automatically after about 30 seconds.

O
MENU

■ Resetting the adjustments

Select the RESET menu. See page 12 for more information on resetting the adjustments.

Adjusting the brightness and contrast

Brightness and contrast adjustments can be made directly using the control button

Press the control button up or down to adjust the brightness and left or right to adjust the contrast.

The adjustments also can be made using the menu.

1 Press the MENU button.

The main MENU appears on the screen.

2 Press the control button to highlight ☼ BRIGHT and press the MENU button again.

The BRIGHT/CONTRAST menu appears on the screen.

3 Press the control button up or down to select ☼ (brightness) or ◑ (contrast).

4 Press the control button left or right to make the adjustment.

Adjusting the centering of the picture (CENTER)

This setting is stored in memory for the current input signal.

1 Press the MENU button.

The main MENU appears on the screen.

2 Press the control button to highlig ▭ CENTER and press the MENU button.

The CENTER menu appears on the screen.

3 Press the control button up or down to sel▭ (vertical centering) or ▭ (horizontal centering).

4 Press the control button left or right to make the adjustment.

Adjusting the size of the picture (SIZE)

This setting is stored in memory for the current input signal.

1 Press the MENU button.

The main MENU appears on the screen.

2 Press the control button to highlig ▭ SIZE and press the MENU button.

The SIZE menu appears on the screen.

3 Press the control button up or down to sele ▭ (vertical size) or ▭ (horizontal size).

4 Press the control button left or right to make the adjustment.

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Enlarging or reducing the picture (ZOOM)

This setting is stored in memory for the current input signal.

1 Press the MENU button.
The main MENU appears on the screen.

2 Press the control button to highlight ⊕ ZOOM and press the MENU button.
The ZOOM menu appears on the screen.

**3 Press the control button left or right to enlarge or reduce the picture.**

Note
Adjustment stops when either the horizontal or vertical size reaches its maximum or minimum value.

Adjusting the shape of the picture (GEOM)

The GEOM settings allow you to adjust the rotation and shape of the picture.
The rotation setting is stored in memory for all input signals. All other settings are stored in memory for the current input signal.

1 Press the MENU button.
The main MENU appears on the screen.

2 Press the control button to highlight ☐ GEOM and press the MENU button.
The GEOMETRY menu appears on the screen.

3 First press the control button up or down to select the desired adjustment item. Then press the control button left or right to make the adjustment.

Select	To
◯ ROTATION	rotate the picture
☐ PINCUSHION	expand or contract the picture sides
◖ PIN BALANCE	shift the picture sides to the left or right
△ KEYSTONE	adjust the picture width at the top of the screen
◻ KEY BALANCE	shift the picture to the left or right at the top of the screen

Adjusting the color of the picture (COLOR)

The COLOR settings allow you to adjust the picture's color temperature by changing the color level of the white color field. Colors appear reddish if the temperature is low, and bluish if the temperature is high. This adjustment is useful for matching the monitor's colors to a printed picture's colors.
This setting is stored in memory for all input signals.

1 Press the MENU button.
The main MENU appears on the screen.

2 Press the control button to highlight ⊡ COLOR and press the MENU button.
The COLOR menu appears on the screen.

3 Press the control button up and down to select a color temperature.
The preset color temperatures are 5000K, 6500K, 9300K and 11000K. Since the default setting is 9300K, the whites will change from a bluish hue to a reddish hue as the temperature is lowered to 6500K and 5000K, or from a reddish hue to a bluish hue as it is heightened to 11000K.

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Adjusting the quality of the picture (SCREEN)

The SCREEN settings allow you to adjust the quality of the picture by controlling the convergence, moire, and landing.
- If you see red or blue shadows around letters or lines, adjust the convergence.
- If elliptical or wavy patterns appear on the screen, cancel the moire.
- If the color is irregular, adjust the landing.

The CANCEL MOIRE setting is stored in memory for the current input signal. All other settings are stored in memory for all input signals.

1 Press the MENU button.
The main MENU appears on the screen.

2 Move the control button to highlight ⊞ SCREEN and press the MENU button.
The SCREEN menu appears on the screen.

3 First press the control button up or down to select the desired adjustment item. Then press the control button left or right to make the adjustment.

Select	To
⊡ H CONV	horizontally shift red or blue shadows
⊕ V CONV	vertically shift red or blue shadows
▣ LANDING	reduce any irregularities in the color to a minimum
⟨⟨⟩⟩ CANCEL MOIRE*	adjust the degree of moire cancellation until the moire is at a minimum

* Moire is a type of natural interference which produces soft, wavy lines on your screen. It may appear due to interference between the pattern of the picture on the screen and the phosphor pitch pattern of the monitor.

Example of moire

Note
The picture may become fuzzy when the moire is cancelled.

Additional settings (OPTION)

You can increase the bass level of the speakers, manually degauss (demagnetize) the monitor, change the menu position, lock the controls and change the menu language.

1 Press the MENU button.
The main MENU appears on the screen.

2 Press the control button to highlight ⊟ OPTION and press the MENU button.
The OPTION menu appears on the screen.

3 Press the control button up and down to highlight the desired adjustment item.
Adjust the selected item according to the following instructions.

Activating bass boost

Activate bass boost to increase the bass level of the speakers.
To activate the bass boost, first press the control button up or down to select ◁+(BASS BOOST). Then press the control button to the right to turn bass boost ON.

Degaussing the screen

The monitor is automatically demagnetized when the power is turned on.
To manually degauss the monitor, first press the control button up or down to select ↺ (MANUAL DEGAUSS). Then press the control button to the right.
The screen is degaussed for about 3 seconds. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result.

Changing the menu's position.

Change the menu's position if it is blocking an image on the screen.
To change the menu's on-screen position, first press the control button up or down to select ⊟ (OSD H POSITION) for horizontal adjustment, or ⊟ (OSD V POSITION) for vertical adjustment. Then press the control button left or right to shift the on-screen menu.

Locking the controls.

To protect adjustment data by locking the controls, first press the control button up or down to select O⊓ (CONTROL LOCK). Then press the control button to the right to select ON.
Only the ⏻ (power) switch, ◁× (mute) button, EXIT, and O⊓ (CONTROL LOCK) of the ⊟ OPTION menu will operate. If any other items are selected, the O⊓ mark appears on the screen.

To cancel the control lock
Repeat the procedure above and set O⊓ (CONTROL LOCK) to OFF.

US

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Selecting the on-screen menu language (LANGUAGE)

English, French, German, Spanish, Italian, and Japanese versions of the on-screen menus are available. The default setting is English.

To change the menu language, first press the control button up or down to select ⬛ (LANGUAGE). Then press the control button left or right to select a language.

Resetting the adjustments

This monitor has the following two reset methods. Use the RESET menu to reset the adjustments.

CURRENT MODE
This option resets adjustments and settings except for ◁+ (BASS BOOST) and the on-screen menu position.

ALL DATA
This option resets all adjustments and settings to the factory settings.

To reset the adjustments

1 **Press the MENU button.**
   The main MENU appears on the screen.

2 **Press the control button to highlight ⌷ OPTION and press the MENU button.**
   The OPTION menu appears on the screen.

3 **Press the control button up and down to select ⋯ (RESET), then press the control button to the right.**

4 **Press the control button up and down to select CURRENT MODE or ALL DATA, then press the control button to the right.**
   The adjustments for the selected mode are reset to the factory settings.

12

Technical Features

Preset and user modes

When the monitor receives an input signal, it automatically matches the signal to one of the factory preset modes stored in the monitor's memory to provide a high quality picture at the center of the screen. (See Appendix for a list of the factory preset modes.) For input signals that do not match one of the factory preset modes, the digital Multiscan technology of this monitor ensures that a clear picture appears on the screen for any timing in the monitor's frequency range. If the picture is adjusted, the adjustment data is stored as a user mode and automatically recalled whenever the same input signal is received.

Note on sync signals

Input the sync signal as HD/VD separate or composite format. This monitor does not accept sync on green.

Note for Windows users

For Windows users, check your video board manual or the utility program which comes with your graphics board and select the highest available refresh rate to maximize monitor performance.

Power saving function

This monitor meets the power-saving guidelines set by VESA, ENERGY STAR, and NUTEK. If the monitor is connected to a computer or graphics board that is DPMS (Display Power Management Signaling) compliant, the monitor will automatically reduce power consumption in three stages as shown below.

Power mode	Power consumption*	⏻ (power) indicator
normal operation	≤ 150 W	green
1 suspend	≤ 15 W	green and orange alternate
2 active off	≤ 2 W	orange
power off*	0 W	off

When your computer enters a power saving mode, the input signal is cut and NO INPUT SIGNAL appears on the screen. After a few seconds, the monitor also enters the power saving mode.

* Even if you turn the power off, the ⏻ (power) indicator remains lit for a few seconds.

Troubleshooting

Before contacting technical support, refer to this section.

If thin lines appear on your screen (damper wires)

The lines you are experiencing on your screen are normal for the Trinitron monitor and are not a malfunction. These are shadows from the damper wires used to stabilize the aperture grille and are most noticeable when the screen's background is light (usually white). The aperture grille is the essential element that makes a Trinitron picture tube unique by allowing more light to reach the screen, resulting in a brighter, more detailed picture.

Damper wires
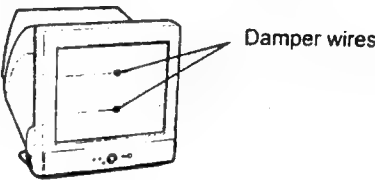
On-screen messages

If there is something wrong with the input signal, one of the following messages appears on the screen. To solve the problem, see "Trouble symptoms and remedies" on page 14.

```
INFORMATION

OUT OF SCAN RANGE
```
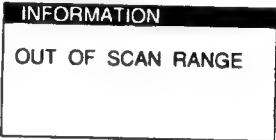
The input signal condition
OUT OF SCAN RANGE

indicates that the input signal is not supported by the monitor's specifications.

NO INPUT SIGNAL

indicates that no signal is input to the monitor.

Trouble symptoms and remedies

If the problem is caused by the connected computer or other equipment, please refer to the connected equipment's instruction manual. Use the self-diagnosis function (page 16) if the following recommendations do not resolve the problem.

Symptom	Check these items
No picture	
If the ⏻ (power) indicator is not lit	• Check that the power cord is properly connected. • Check that the ⏻ (power) switch is in the "on" position.
If the NO INPUT SIGNAL message appears on the screen, or if the ⏻ (power) indicator is either orange or alternating between green and orange	• Check that the video signal cable is properly connected and all plugs are firmly seated in their sockets. • Check that the HD15 video input connector's pins are not bent or pushed in. ■**Problems caused by the connected computer or other equipment** • The computer is in power saving mode. Try pressing any key on the computer keyboard. • Check that your computer's power is "on." • Check that your computer's graphics board is completely seated in the proper bus slot.
If the OUT OF SCAN RANGE message appears on the screen	■**Problems caused by the connected computer or other equipment** • Check that the video frequency range is within that specified for the monitor. If you replaced an old monitor with this monitor, reconnect the old monitor and adjust the frequency range to the following. Horizontal: 30 – 70 kHz Vertical: 48 – 120 Hz
If no message is displayed and the ⏻ (power) indicator is green or flashing orange	• Use the Self-diagnosis function (page 16).
If using Windows 95/98	• If you replaced an old monitor with this monitor, reconnect the old monitor and do the following. Install the Windows Monitor Information Disk (page 7) and select this monitor ("HMD-V200") from among the Sony monitors in the Windows 95/98 monitor selection screen.
If using a Macintosh system	• Check that the Macintosh adapter and the video signal cable are properly connected (page 6).
Picture flickers, bounces, oscillates, or is scrambled	• Isolate and eliminate any potential sources of electric or magnetic fields such as other monitors, laser printers, electric fans, fluorescent lighting, or televisions. • Move the monitor away from power lines or place a magnetic shield near the monitor. • Try plugging the monitor into a different AC outlet, preferably on a different circuit. • Try turning the monitor 90° to the left or right. ■**Problems caused by the connected computer or other equipment** • Check your graphics board manual for the proper monitor setting. • Confirm that the graphics mode (VESA, Macintosh 21" Color, etc.) and the frequency of the input signal are supported by this monitor (Appendix). Even if the frequency is within the proper range, some graphics boards may have a sync pulse that is too narrow for the monitor to sync correctly. • Adjust the computer's refresh rate (vertical frequency) to obtain the best possible picture.
Picture is fuzzy	• Adjust the brightness and contrast (page 9). • Degauss the monitor* (page 11). • If you adjust CANCEL MOIRE, the picture may become fuzzy. Decrease the moire cancellation effect (page 11).

Symptom	Check these items
Picture is ghosting	• Eliminate the use of video cable extensions and or video switch boxes. • Check that all plugs are firmly seated in their sockets.
Picture is not centered or sized properly	• Adjust the size (page 9) or centering (page 9). Note that some video modes do not fill the screen to the edges.
Edges of the image are curved	• Adjust the geometry (page 10).
Wavy or elliptical pattern (moire) is visible	• Cancel the moire (page 11). ■Problems caused by the connected computer or other equipment • Change your desktop pattern.
Color is not uniform	• Degauss the monitor* (page 11). If you place equipment that generates a magnetic field, such as a speaker, near the monitor, or if you change the direction the monitor faces, color may lose uniformity. • Adjust the landing (page 11).
White does not look white	• Adjust the color temperature (page 10).
Letters and lines show red or blue shadows at the edges	• Adjust the convergence (page 11).
Monitor buttons do not operate	• If the control lock is set to ON, set it to OFF (page 11).
There is no sound	• Raise the volume. • If the ◁✕ mark appears on the screen, press the ◁✕ (mute) button to cancel the mute. • Unplug your headphones from the monitor.
A hum is heard right after the power is turned on	• This is the sound of the auto-degauss cycle. When the power is turned on, the monitor is automatically degaussed for three seconds.

* If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result. A humming noise may be heard, but this is not a malfunction.

Displaying this monitor's name, serial number, and date of manufacture.

While the monitor is receiving a video signal, press and hold the MENU button for more than five seconds to display this monitor's information box.

Example

MENU ➡

```
INFORMATION
MODEL : HMD-V200
SER NO : 1234567
MANUFACTURED : 1999-52
```

If the problem persists, call your authorized Sony dealer and give the following information.
• Model name: HMD-V200
• Serial number
• Name and specifications of your computer and graphics board.

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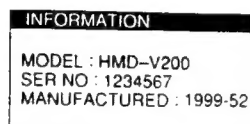
Self-diagnosis function

This monitor is equipped with a self-diagnosis function. If there is a problem with your monitor or computer(s), the screen will go blank and the ⏻ (power) indicator will either light up green or flash orange. If the ⏻ (power) indicator is lit in orange, the computer is in power saving mode. Try pressing any key on the keyboard.

Control button   ⏻ (power) indicator
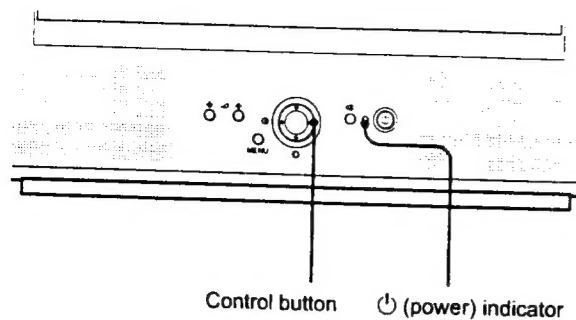
If the ⏻ (power) indicator is green

1 Disconnect the video signal cable, or turn off the connected computer.

2 Press the ⏻ (power) button to turn the monitor off and on.

3 Press the control button to the right for 5 seconds before the monitor enters power saving mode.
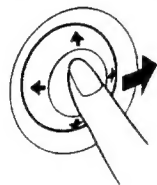
If all four color bars appear (white, red, green, blue), the monitor is working properly. Reconnect the video signal cable and check the condition of your computer.

If the color bars do not appear, there is a potential monitor failure. Inform your authorized Sony dealer of the monitor's condition.

If the ⏻ (power) indicator is flashing orange

Press the ⏻ (power) button to turn the monitor off and on.
If the ⏻ (power) indicator lights up green, the monitor is working properly.

If the ⏻ (power) indicator is still flashing, there is a potential monitor failure. Count the number of seconds between orange flashes of the ⏻ (power) indicator and inform your authorized Sony dealer of the monitor's condition. Be sure to note the model name and serial number of your monitor. Also note the make and model of your computer and graphics board.

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Specifications

CRT	0.24 mm aperture grille pitch
	17 inches measured diagonally
	90-degree deflection
	FD Trinitron
Viewable image size	Approx. 327 × 243 mm (w·h)
	(12 $^7/_8$ × 9 $^5/_8$ inches)
	16.0" viewing image
Resolution	Horizontal: Max. 1280 dots
	Vertical: Max. 1024 lines
Standard image area	Approx. 312 × 234 mm (w·h)
	(12 $^3/_8$ × 9 $^1/_4$ inches)
Deflection frequency*	Horizontal: 30 to 70 kHz
	Vertical: 48 to 120 Hz
Speaker	1W + 1W (max.)
Headphones output	Stereo minijack, impedance 8Ω
Audio input	3.5 mm stereo miniplug, input level 0.7 Vrms typical
AC input voltage/current	100 to 120 V, 50 – 60 Hz, 1.8 – 1.5 A
Power consumption	Max. 150 W
Dimensions	Approx. 411.5 × 390 × 474 mm (w/h·d)
	(16 $^1/_4$ × 15 $^3/_8$ × 18 $^3/_4$ inches) when tilted at a 25° angle
Mass	Approx. 22 kg (48 lb 8 oz)
Plug and Play	DDC1/DDC2B
Supplied accessories	See page 6.

* Recommended horizontal and vertical timing condition
  • Horizontal sync width duty should be more than 4.8% of total horizontal time or 0.8 µsec, whichever is larger.
  • Horizontal blanking width should be more than 2.5 µsec.
  • Vertical blanking width should be more than 450 µsec.

Design and specifications are subject to change without notice.

Appendix

Preset mode timing table

No.	Resolution (dots × lines)	Horizontal Frequency	Vertical Frequenc	Graphics Mode
1	640 × 400	31.5 kHz	70 Hz	MCGA
2	640 × 480	31.5 kHz	60 Hz	VGA
3	640 × 480	43.3 kHz	85 Hz	VESA
4	800 × 600	37.9 kHz	60 Hz	VESA
5	800 × 600	46.9 kHz	75 Hz	VESA
6	1024 × 768	60.0 kHz	75 Hz	VESA
7	1024 × 768	68.7 kHz	85 Hz	VESA
8	1152 × 864	54.9 kHz	60 Hz	ATI
9	1280 × 1024	64.0 kHz	59 Hz	VESA